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Canada's Lakes and Wetlands

Wet 'n' Wild

Canada's wet 'n' wild — and it needs to stay that way! Canada's surrounded by oceans, and it holds more freshwater than any country in the world. Plants, animals, and fish depend on these wet areas — but these wet places are slowly disappearing. The good news is that people are "diving" into action to keep our wet areas wild!

Freshwater Facts

Wetlands are a "transition" zone between deep water and dry land. They're soaked all year long and for parts of the year they're completely covered by shallow water. There are four basic types of wetlands — marshes, swamps, fens, and bogs.

MARSH If you see plants with stems above the water's surface and roots down below, you've probably discovered a marsh. But you won't see trees — it's too wet for them to take root.

SWAMP A swamp is a wooded wetland. Trees take root because there's less water than a marsh. If you walked through a swamp, you'd hear a squishing sound under your feet.

FEN You'll recognize a fen by the tangle of grasses, sedges, and willows stretched out over it. You'll find fens in bays of lakes or basins where little water flows in and out.

BOG A bog is covered by a carpet of moss, and only the hardiest of plants grow here. The water is filled with peat, so it's acidic. Fish can't survive in this type of environment.

RIVER Rivers are natural transport systems, where water flows in a channel to another body of water. They move 1.5 trillion swimming pools of water to oceans each year!

LAKE A lake is a large body of water surrounded by land. Lakes get water and nutrients from rivers and rain. Lakes have lots of nutrients and make a great home for animals.

POND Ponds are formed when water gets trapped in natural hollows or by beaver dams. Ponds have lots of underwater plants, but they're hard to see in the deep, dark water.

Chain Reaction

Check out this food chain to see how plants, animals, and people are connected. Figure out who feeds on who, then number them in the right order starting from the bottom.

— dragonfly nymph
— lake trout
6 algae
— people
— water flea
3 sculpin

Home, Sweet Wet, Home

Canada is covered with different types of wetlands, lakes, and rivers — and each of them is an "aquatic habitat." Think of a habitat as a home. In nature, it's a place where a plant or animal makes its home. Not all of these homes are the same. Just like your home may be warm and your friend's home may be cooler, conditions vary among habitats. The kind of environment determines the plants and animals you'll find there. In aquatic habitats, the plants and animals have adapted to living in wet conditions, and depend on those conditions in order to survive.

Aquatic habitats are either marine (salty) or freshwater. Most rivers, lakes, ponds and wetlands you see are freshwater habitats.

Each habitat has its own unique food chain. Fish eat water plants, birds eat fish, and on and on. Plants and animals in the chain need each other, and the habitat, to survive — to find food, shelter, a place to breed, a place to nest, rest, or be camouflaged from predators. Because all of the plants and animals are connected to one another, destroying one plant or animal will affect the rest.

But plants and animals aren't the only ones that need aquatic habitats — people need them, too! Freshwater habitats are a great place to swim, bike, and canoe. And the Great Lakes provide 37 million North Americans with their drinking water. The plants in these habitats also filter water to keep it clean, reduce the amount of soil erosion, control flooding, and stabilize the atmosphere.

But even though aquatic habitats are so important, they're in trouble. In the past, people thought wetlands were nothing more than wastelands. All over the country, these areas were drained and dredged to make way for roads, marinas, and farmland. Pollution has destroyed habitats in lakes and rivers, too. Once water is polluted, the plants and animals that live there can't survive, or they become ill.

Aquatic habitats need to be protected and conserved because some of them are still being lost. Now it's up to kids and adults to learn more about Canada's freshwater — and how to keep it wet 'n' wild!

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Get set, get wet, and help Canada's aquatic habitats!

Space Invaders

Aquatic habitats are filled with plants and animals. Some types of plants and animals have been around for a long time. Others, like purple loosestrife and zebra mussels, are new arrivals that are causing problems in their new homes.

Above the waterline, one of the biggest habitat invaders is a plant called purple loosestrife. It has dry-looking stalks with tiny purple flowers on them. Scientists first spotted purple loosestrife in Quebec in the 1800s, but it wasn't until the 1970s when they started to get seriously concerned.

The problem with loosestrife is that it starts to spread. Before long, it can take over, squeezing out all of the other plants. Animals that depend on a certain type of plant for food or shelter may be out of luck once purple loosestrife puts down its roots!

Since 1993, scientists have been studying purple loosestrife to see how they can stop it from spreading so quickly. It's unlikely that purple loosestrife will ever completely disappear, but scientists are studying ways to control the plant and stop it from taking over entire shorelines.

Underwater, the biggest invader of all is zebra mussels. They have brown and white striped shells, and look sort of like little clams. The mussels came from eastern Europe and were first discovered in the Great Lakes in 1988. They got into the Great Lakes when foreign ships emptied water into the lakes.

They spread throughout the Great Lakes by attaching themselves to things like boats, water pipes, and other animals. Like loosestrife, mussels breed quickly. One square metre of sandy lake floor, no bigger than your breakfast table, can hold up to 700 000 zebra mussels!

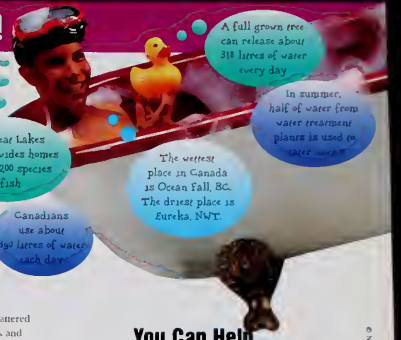
The mussels live in shallow water and eat small water plants. They eat a lot of the fish's food and disturb their breeding ground. Scientists are now studying the mussels to learn how to control the invasion.

Did you know?

- Loss of habitat, not pollution, is the greatest problem facing wildlife in the Great Lakes.
- Fish live in flooded fields, wetlands, and drainage ditches.
- Plants are important for fish. They are places to spawn, hatch eggs, feed, and hide from predators.
- Almost one third of North America is covered by trees. There were twice as many trees 500 years ago.

The Great Lakes hold 20 percent of the world's freshwater. And scientists think that Canada has about a quarter of the whole world's wetlands. All in all, Canada is one wet country! Check out this map to find out more about the different types of aquatic habitats.

CANADA'S ARCTIC
GREENLAND
ARCTIC
This frozen part of the country has very few trees, but lots of water. When the glaciers moved and melted away from this region thousands of years ago, they left pits in the land where fens and bogs are found today.
Fen
PACIFIC COAST
Shallow marshes are found in the mountain valleys in the southern end of British Columbia. Wetlands are also found along the coast of the Fraser River Delta and Boundary Bay.
PACIFIC OCEAN
Pothole
Sturgeon
PRAIRIE PROVINCES
The grasslands in Alberta, Saskatchewan, and Manitoba are filled with wetlands. The type of wetland depends on how much rain falls each year. The area has pools of water called "potholes," which are a type of deep lake.
Bog
ATLANTIC COAST
Lots of fens and bogs are scattered all around New Brunswick and Nova Scotia. Forested swamps are the most common type of freshwater wetland in these eastern provinces.
ATLANTIC OCEAN
GREAT LAKES
Water from the lakes has created lots of different wetlands, like marshes and ponds, in this area. Forested swamps are common, too. However, most of the wetlands here have been removed to build farms and cities.
LAKE SUPERIOR
LAKE HURON
LAKE MICHIGAN
LAKE ONTARIO
LAKE ERIE


A full grown tree can release about 318 litres of water every day.
In summer, half of water from water treatment plants is used to water ___
The Great Lakes basin provides homes for over 200 species of fish.
The wettest place in Canada is Ocean Fall, BC. The driest place is Eureka, NWT.
Canadians use about 350 litres of water each day.

You Can Help

- Grab a pair of rubber boots and start walking! Check out an aquatic habitat near you and see if you can spot the plants and animals living there.
- Ask your school to order a Birdquest program and video to teach you and your class about different birds and nests. For more information, write to:
  The Canadian Nature Federation
  1 Nicholas Street, Suite 520, Ottawa, ON, K1N 7B7
  Phone: 1-800-267-4088
- Alert the Canadian Wildlife Federation in Ottawa when you see purple loosestrife. **The purple loosestrife hotline phone number is 1-800-565-6305.**
- Help save fish by getting involved in the Yellow Fish Road Program. The program raises awareness that hazardous household products dumped into storm drains end up in nearby waters and harm fish and other wildlife. To get involved, write to:
  Trout Unlimited Canada P.O. Box 6270, Station D, Calgary, AB, T2P 2C8
- Celebrate National Wildlife Week from April 9 to 15 to let people know about the importance of wildlife conservation. This year's theme is "Wildlife ... Yours to Recover." To find out more, write to:
  The Canadian Wildlife Federation, 1 Nicolas St., Ste 520, Ottawa, ON, K1N 7B7
  563-WILD (9453)

Building Success

Take a school of environmentally concerned kids, add their energy, combine a teacher's great idea and what have you got? A new pond built by the kids of Anson Taylor Jr. Public School in Scarborough, ON.

In June 1993, Anson Taylor School built a pond in their "own backyard." Natural habitat had been taken away to build the school so the kids and teachers wanted to give something back.

Before the kids and teachers built the pond, they studied wetlands and animal life cycles in class. They also learned how to build a pond from the Metro Toronto Zoo.

First, adults dug out the hole with a machine. Then the kids took over! The Grade 6 students first put a pool liner down, then kids from Kindergarten to Grade 3 added sand.

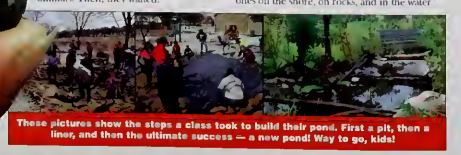
Water, cattails, water lilies, and bulrushes followed. The kids also planted trees and bushes around the pond for animals. Then, they waited.

Snails and water striders came to the pond during the first summer. A year later, dragonflies, damsel flies and frogs had arrived.

The pond started out with five snails and now has 200! It's thriving because everyone looks after it. The "Pond Watch" group clean it once a week. "We take out the algae so it doesn't fill up the pond and there's enough space for plants to grow," said Allan, 11.

They also clean out the garbage that people throw in, and add water when the level gets too low. The kids also keep track of the animals they see, marking them down on charts. Peter, 8, who is part of "Habitat Watch" said, "It's fun because you have to have really sharp eyes!"

In December, the zoo gave Anson Taylor School a certificate for making the habitat. But the greatest reward is knowing what the pond does for animals. As Peter said, "I'm happy we have the pond. It helps animals whose homes are being wrecked. And it helps animals that fly, the ones on the shore, on rocks, and in the water."



These pictures show the steps a class took to build their pond. First a pit, then a liner, and then the ultimate success — a new pond! Way to go, kids!

Raptor Recovery

Pull on your boots, grab a pair of binoculars, and head for the lake. Some kids just spotted an osprey — maybe you'll be able to catch a glimpse, too!

Your parents probably didn't see any of these birds when they were kids. They almost disappeared in Canada in the 1960s because people used DDT and other toxic chemicals at home and at work. These toxic chemicals polluted the water and ended up in the birds.

Everytime a bird ate a fish from the water, the bird got a dose of the chemicals, too. The chemicals caused the osprey's eggshells to become thin, and many of the eggs were crushed in the nest. The osprey population declined. As the birds died of old age, there were not enough younger birds to replace them. People also destroyed the bird's homes, found in the tops of tall trees, when they built roads and buildings along lakes and rivers.

Today people are helping the osprey. Some toxic chemicals, like DDT, are no longer used. Some are banned in Canada.

Metal sheets have been put around the base of trees and poles where osprey live to stop raccoons from climbing up trees to reach the birds' nests, and steal their eggs.

In places where the trees were cut down, people built artificial nesting platforms near water. The platforms look like a tabletop balanced on top of a pole. Luckily, osprey don't seem to mind living close to people. Many of the platforms are becoming new homes.

Thanks to the efforts of people all over Canada, the number of osprey has continued to grow in the last 20 years. Now your parents may get a chance to see this once-rare raptor!

Puzzle Answers

Chain Reaction

1. people
2. lake trout
3. sculpin
4. dragonfly nymph
5. water flea
6. algae

The peacock (A) and the angel fish (B) do not belong in the marsh.

The animal pairs are numbered.

Mystery in the Marsh

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Mystery in the Marsh

It's a cover up. Many marsh animals are well-hidden in their environment. Can you find 16 pairs of animals hidden in this marsh scene? And can you find another two animals that don't belong at all?

1. least bittern
2. blue-winged teal
3. Virginia rail
4. northern harrier
5. red-winged blackbird
6. water shrew
7. muskrat
8. green frog
9. snapping turtle
10. northern water snake
11. northern pike
12. fathead minnow
13. silver-bordered butterfly
14. amphipods
15. pumpkinseed
16. great blue heron